

# Adjustable Rigging Wires – The Easy Way

Alan Yendle

My quest for a simpler method to make rigging wires adjustable with a minimum of effort continues. At this time, I think this is the simplest way to do it.

These are the tools you will need:

- A left-handed 4-40 tap I found these on E-bay.
- A method to silver solder or braze.
- Dremel and cut-off wheel if using steel strip rigging.

These are the commercially available parts you will need for EACH rigging wire or strip.

- One Dubro 4-40 threaded rod end #302.
- One 4-40 slotted head screw
- One Dubro 4-40 solder rod end # 303.
- One 4-40 Left hand threaded rod. (Mc Master & Carr).
- One 4-40 hex nut.
- Cutting fluid.

\*\* If using twisted wire, One Dubro 4-40 threaded coupler #336 will be needed.

## **Method**

The right hand threaded end of the wire consists of one each of the 4- 40 rod end and the 4-40 slotted head screw. The wire is silver soldered or brazed into the slot in the head of the screw. A 4-40 nut is used to lock it in place. A nylock nut could also be used instead of the hex nut.

\*\*If using twisted wire, the wire is soldered/brazed into the coupler which is then screwed into the Rod end.

For the left hand threaded end, a Dubro 4-40 solder rod end is threaded with a left hand 4-40 tap. Then the other end of the wire is soldered/brazed into a slot cut into the left hand threaded 4-40 rod which is then screwed into the left hand threaded rod end.

This should give you at least 5/8ths of adjustment on each wire which should be more than enough.

## **UPDATE - JUNE 2019**

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I have previously posted a method to make adjustable rigging in this Tutorial.

That method used a 4/40 left hand threaded rod which, at that time was available from McMaster & Carr. That is no longer shown as available.

Those of you that build models with more than a single wing will know that trying to get multiple rigging wires adjusted and tight is a difficult operation. When you make a change to the length of just one rigging wire you almost always have also to adjust at least one other wire.

If you have to unscrew the wires from the wing/fuselage each time this becomes even more frustrating. If each rigging wire could be individually adjusted while in situ it would be an easier job.

The solution is to have a right-hand threaded attachment at one end of the rigging and a left-hand threaded attachment at the other end.

The problem is that while 4/40 left-hand thread Taps and Dies are available, no 4/40 left-hand thread bolts or screws are available.

Here are the basics of the parts and tools I used to do this.

The 3mm left-hand thread cap screws I use here are very close in size to 4/40. I found these on E-Bay.

The rigging I am using is a flat steel strip from Mick Reeves. It can also be used with stranded wire rigging.

At one end is a Dubro 4/40 threaded Rod End Part No.302

At the other end is a Dubro 4/40 Solder Rod End Part No. 303.

At the end with the threaded Rod End, I used a 4/40 screw with a slotted head, one end of the steel rigging was silver soldered into the slot. Then I put on a 4/40 Nylock nut. I screwed this nut onto the screw just far enough that the screw came through the nut and then removed the nut and re-installed it with the nylon side going first onto the screw. That lets me tighten the nut against the Rod End when the rigging has been secured.

At the end where the Solder Rod End is used, I tapped that with a 3mm left hand threaded tap. This tap was purchased from Amazon. Always use a good quality cutting fluid to cut threads.

When using the small left-hand tap it is two turns to the left and then one turn to the right the whole time. If you don't do that to loosen the kerf you stand a good chance of breaking off the tap inside the Rod End.

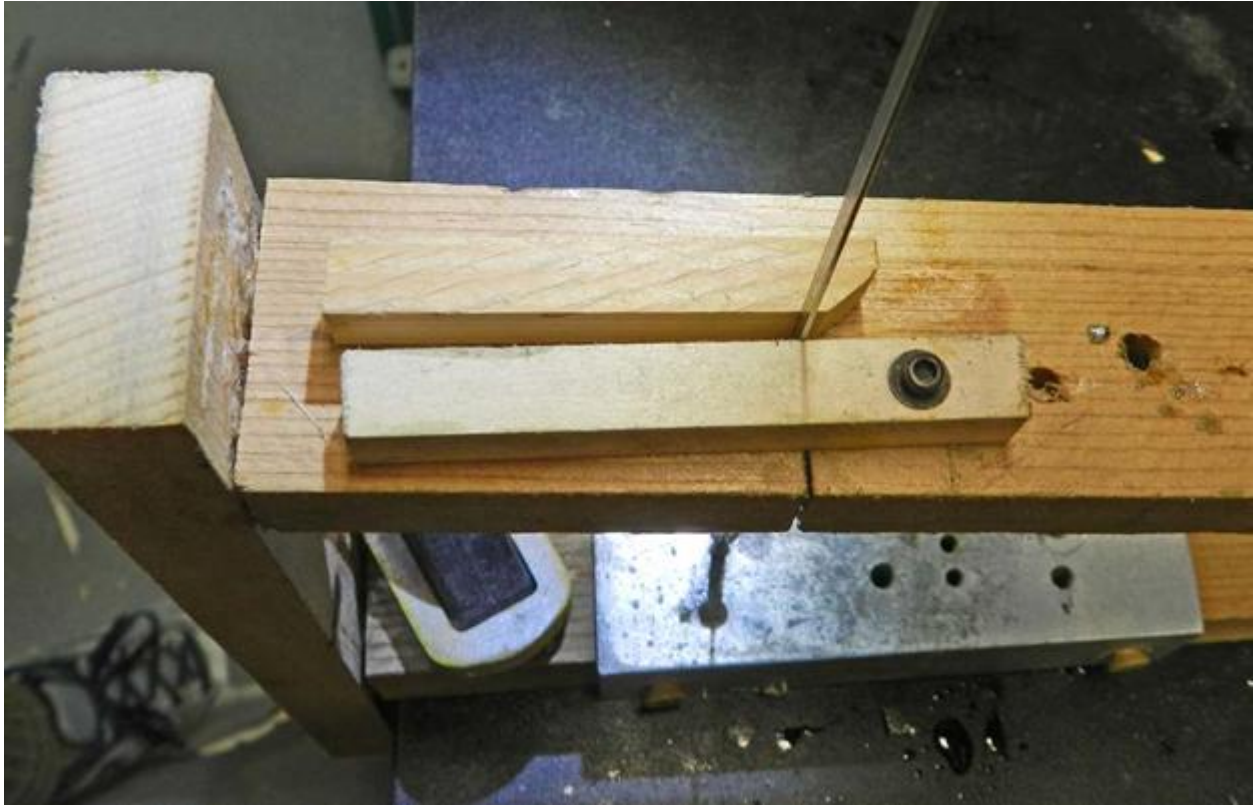
Then I took one of the left-hand threaded cap screws, and using a Dremel cut-off wheel I cut a slot across the head. The other end of the rigging was silver soldered into that slot.

In an attempt to make this process easier I made a soldering jig from scrap wood and a piece of aluminum angle bracket like this:



The screw is inserted into the hole in the alloy part and the rigging is slid into a slot in the top part like this.

The rigging is held in place by the hinged piece of basswood, shown below.



And finally, I made a small tool like this.



One end turns the flat steel rigging and the other end turns the lock nut. All very simple to make.

To measure the correct length of the rigging I attach the RHT Rod End and screw to the mounting plate with about one-quarter of an inch of thread showing.

The LHT Rod End and screw was attached to the other mounting plate also with about one-quarter of an inch of thread showing. The steel rigging was then held against the end to be soldered and marked where it needed to be cut to join to the cap screw.

Remember there is no such thing as "adjusting one rigging wire" when you do that you will also have to make a small change to at least one other one. Being able to make that adjustment in place, without having to remove any of the , makes, IMHO, the time it takes to make up each wire worthwhile.

I tried the system on the eight steel rigging wires between the front and rear cabane struts and the rigging from the top wing section and the lower wing stub. on my Gloster Gladiator build, and it works very well.

Regards,  
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I have never been able to get them all so tight before.